SEP 2 3 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Geoff W. Taylor et al.

SERIAL NO.: 10/602,217

GROUP ART UNIT: 2874

FILED:

June 24, 2003

EXAMINER: Sung H. Pak

FOR:

"Interference Cancellation System Employing Photonic Sigma Delta Modulation and Optical True Time

Delay"

ATT'Y DOCKET: OPE-024

Commissioner of Patents and Trademarks P.O. 1450 Alexandria, VA 22313 I hereby certify that this correspondence is being deposited on this day with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

\(\frac{1}{2}\) \(\frac{1}{2}\) \(\frac{1}{2}\) \(\frac{1}{2}\) \(\frac{1}{2}\) \(\frac{1}{2}\) \(\frac{1}{2}\)

Jay P. Sbrollini

Date

Reg. No. 36,266

Sir:

## SUBMITTAL OF SUPPLEMENTAL DOCUMENTS PURSUANT TO DUTY OF DISCLOSURE

Pursuant to applicant's duty of disclosure under 37 CFR Section 1.56, enclosed is a completed form PTOL-1449 as well as copies of the cited documents which relate to the above-referenced patent application. Since this document submittal is being presented prior to the first examination on the merits, no fee is due herewith.

The following foreign documents and articles are attached:

WO 02/071490; 09/12/02; PCT WO 2004/038812; 05/06/04; PCT

"A Brief Introduction to Sigma Delta Conversion", by David Jarman; May, 1995; discloses the functionality of these converters.

"High Resolution Signal Conditioning ADCs"; by Walt Kester, James Bryant and Joe Buxton; discloses the description and functionality of these high resolution converters.

"Synthesis and Analysis of Sigma-Delta Modulators Employing Continuous-Time Filters"; Philippe Benabes, Mansour Keramat, and Richard Kielbasa; discloses a methodology for analysis and synthesis of lowpass sigma-delta converters.

"Analog-to-Digital Converter Architecture and Choices for System Design"; by Brian Black; discloses four major circuit architectures used in A/D converter design.

"Polymer-Based Optical Waveguide Circuits for Photonic Phased Array Antennas"; Suning Tang, L.Wu, Z.Fu, D.An, Z.Han, and Ray T. Chen; discloses a novel compact detector-switched polymeric waveguide true-time-delay module.

The listed documents are brought to the Examiner's attention because they are known to the applicant and/or the applicant's attorney and may be considered by the Examiner to be material to his/her examination. This listing should not be construed as representation that a search has been made or that no better art exists. No inference should be made that the documents are in fact material merely because they are referenced herein. Moreover, no representation is made that the brief descriptions of the references herein necessarily describe the most material aspects of the references. Further, by this listing, the applicant is not making any admission regarding the relative dates of the invention and listed disclosures.

Respectfully submitted,

Jay P. Sbrollini

Reg. #36,266

Attorney for Applicant(s)

Gordon & Jacobson, P.C. 65 Woods End Road Stamford, CT 06905 (203) 329-1160

| FOREIGN PATENT DOCUMENTS  Examiner Document No. Date Country Class Sub- Tra  | 3 200%       |                 |                  | Atty Docket No<br>OPE-024 |                                       | Serial N    |                       |             |
|--|--------------|-----------------|------------------|---------------------------|---------------------------------------|-------------|-----------------------|-------------|
| File   Sub-   Class   Sub-   File   Class   Sub-    | INFORM       |                 | ATION            |                           | or et al.                             |             |                       |             |
| Examiner nitials Document No. Date Name Class Sub-class Filing approximately approxima |              | PAGE 1 OF 2     |                  |                           | 3                                     |             |                       |             |
| A  |              |                 | US PATENT I      | OCUMENTS                  |                                       |             |                       |             |
| FOREIGN PATENT DOCUMENTS  Examiner nitials    Document No.   Date   Country   Class   Subclass   Yes   |              | Document No.    | Date             | Name                      | Class                                 |             | Filing d              |             |
| Document No.   Date   Country   Class   Sub-class   Tracclass   Yes  |              | A               |                  |                           |                                       |             |                       |             |
| nitials  |              |                 | FOREIGN PATE     | NT DOCUMENTS              |                                       |             |                       |             |
| WO 2004/038812 05/06/04 PCT  |              | Document No.    | Date             | Country                   | Class                                 | l l         | <u>Transla</u><br>Yes | ation<br>No |
| 2004/038812  |              | WO 02/071490    | 09/12/02         | PCT                       |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 | 05/06/04         | PCT                       | :                                     |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       | _           |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)   |              |                 |                  |                           |                                       |             |                       |             |
|  |              | OTHER DOCUMENTS | S (Including Aut | thor. Title. Date         | Pertinent Pa                          | ages, Etc.) |                       |             |
|  | <del>-</del> |                 |                  |                           |                                       | , ,         | <u> </u>              |             |
|  |              |                 |                  | · · ·                     | · · · · · · · · · · · · · · · · · · · |             |                       |             |
|  |              |                 | ·                | ***                       |                                       |             | <del> </del>          |             |
|  |              |                 |                  |                           |                                       |             |                       | <del></del> |
|  |              |                 |                  |                           |                                       |             |                       |             |
|  |              |                 |                  |                           |                                       |             |                       |             |

| COFFEE      |  | Atty Docket No.<br>OPE-024   | Serial No.<br>10/602,217  |  |
|-------------|--|--|---------------------------|--|
| PAGE 2 OF 2 |  | Applicant Geoff W. Taylor et al.   |                           |  |
|             |  | Filed<br>June 24, 2003   | Group<br>2874             |  |
| 0.          | THER DOCUMENTS (Including                            | Author, Title, Date, Pertinen  | t Pages, Etc.)            |  |
|             | "A Brief Introduction to S<br>publication; May, 1995 | igma Delta Conversion", b  | y David Jarman; Intersil  |  |
|             | "High Resolution Signal C<br>Joe Buxton;             | conditioning ADCs" by Walt   | Kester, James Bryant, an  |  |
|             | , ,  | of Sigma-Delta Modulators<br>bes, Mansour Keramat, and<br>gnal Processing                  | · · · · ·                 |  |
|             | "Analog-to-Digital Conver<br>Brian Black; Analog Dia | ter Architectures and Choi<br>ogue 33-8 (1999)   | ces for System Design";   |  |
|             | <b> </b>   |  |                           |  |
|             | by Suning Tang, L. Wu, Z                             | Naveguid Circuits for Photo<br>. Fu, D. An, Z. Han, and Ra<br>n Optoelectronic Interconnec | y T. Chen; January, 1999; |  |
|             | by Suning Tang, L. Wu, Z                             | . Fu, D. An, Z. Han, and Ra  | y T. Chen; January, 1999; |  |
|             | by Suning Tang, L. Wu, Z                             | . Fu, D. An, Z. Han, and Ra  | y T. Chen; January, 1999; |  |
|             | by Suning Tang, L. Wu, Z                             | . Fu, D. An, Z. Han, and Ra  | y T. Chen; January, 1999; |  |
|             | by Suning Tang, L. Wu, Z                             | . Fu, D. An, Z. Han, and Ra  | y T. Chen; January, 1999; |  |
|             | by Suning Tang, L. Wu, Z                             | . Fu, D. An, Z. Han, and Ra  | y T. Chen; January, 1999; |  |
|             | by Suning Tang, L. Wu, Z                             | . Fu, D. An, Z. Han, and Ra  | y T. Chen; January, 1999; |  |
|             | by Suning Tang, L. Wu, Z                             | . Fu, D. An, Z. Han, and Ra  | y T. Chen; January, 1999; |  |
|             | by Suning Tang, L. Wu, Z                             | . Fu, D. An, Z. Han, and Ra  | y T. Chen; January, 1999; |  |